

**MBNMS Research Activity Panel
Meeting Summary
January 13, 2017**

Host: Fiorenza Micheli – Marine Conservation Biology (Hopkins Marine Station)

Location: Hopkins Marine Station
Agassiz Building, Room 11
120 Ocean View Boulevard
Pacific Grove, CA

Date: Friday, January 13th, 2017; 9:00 am to 12:00 pm

Members:

	Discipline	Primary/ Alternate	Name	Institution
X	Research Coordinator		DeVogelaere, Andrew	Monterey Bay National Marine Sanctuary
	Biological Oceanography	primary	Kudela, Raphael	University of California, Santa Cruz
	Biological Oceanography	alternate	Chavez, Francisco	Monterey Bay Aquarium Research Institute
X	Deep-Sea Environment	primary	Cailliet, Greg	Moss Landing Marine Laboratories (retired)
X	Deep-Sea Environment	alternate	Haddock, Steve †	Monterey Bay Aquarium Research Institute
X	Estuarine Environment	primary	Clark, Ross	Central Coast Wetlands Group
	Estuarine Environment	alternate	Wasson, Kerstin	Elkhorn Slough NERR and Foundation
X	Fisheries	primary	Lindley, Steve	NOAA Fisheries Service
X	Fisheries	alternate	Owens, Brian	California Department of Fish and Wildlife
	Marine & Coastal Geology	primary	Storlazzi, Curt	United States Geological Survey
	Marine & Coastal Geology	alternate	Paull, Charles	Monterey Bay Aquarium Research Institute
X	Marine Conservation Biology	primary	Goldbogen, Jeremy	Hopkins Marine Station
X	Marine Conservation Biology	alternate	Micheli, Fiorenza	Hopkins Marine Station
X	Nearshore Environment	primary	Nickols, Kerry	California State University Monterey Bay
	Nearshore Environment	alternate	Carr, Mark	University of California, Santa Cruz
X	Physical Oceanography	primary	Ramp, Steve	Soliton Ocean Services, Inc.
	Physical Oceanography	alternate	Cheriton, Olivia	United States Geological Survey
	Shelf & Slope Environment	primary	Lindholm, James	California State University Monterey Bay
X	Shelf & Slope Environment	alternate	Sogard, Susan	NOAA Fisheries Service
	Social Sciences	primary	Pomeroy, Caroline	California Sea Grant Extension Program
	Social Sciences	alternate	Scorse, Jason	Middlebury Institute of International Studies
X	Water Quality	primary	Hunt, John *	University of California, Davis
X	Water Quality	alternate	Hoover, Bridget	Monterey Bay National Marine Sanctuary

*Sanctuary Advisory Council Member: Research (Primary)

†Sanctuary Advisory Council Member: Research (Alternate)

RAP Coordinator:

X	Burton, Erica	Monterey Bay National Marine Sanctuary
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GUESTS:

Hayes, Dawn	Monterey Bay National Marine Sanctuary
Wood, Amity	Monterey Bay National Marine Sanctuary
Wotan, Tricia	City of Monterey

INTRODUCTIONS AND RAP MEMBERSHIP UPDATE

Introductions and New RAP Members (John Hunt)

- New Members:
 - Kerry Nickols: Nearshore Environment, primary (CSU Monterey Bay)
 - Brian Owens: Fisheries, alternate (California Department of Fish and Wildlife)
 - Ross Clark: Estuarine Environment, primary (Central Coast Wetlands Group)
 - Santa Cruz Sentinel article opportunities in future; will tap into RAP members/agendas for future articles of interest

CONSENT ITEMS

Modifications to the Agenda (John Hunt)

- Addition: Amity Wood (MBNMS) will discuss upcoming speaker series

ED RICKETTS AWARD AND LECTURE

Ed Ricketts Award Winner and Lecture Event (Andrew DeVogelaere)

- DeVogelaere announced and congratulated the 2017 award recipient: Fiorenza Micheli
- Memorial Lecture by Micheli will be held at Sanctuary Exploration Center, Santa Cruz on February 10th, doors open at 5:30pm
- Micheli's lecture is entitled, "Under pressure: vulnerability and resilience of coastal systems of the California Current"

HOST PRESENTATION AND DISCUSSION

Research at Hopkins Marine Station (Fiorenza Micheli and Jeremy Goldbogen)

- Micheli provided brief overview of Hopkins Marine Station (HMS) and recent events:
 - HMS is 125 years old
 - 13 faculty
 - 13 staff
 - 20 PhD students
 - 20 postdocs and research associates
 - 10-25 undergrads (depending)
 - Research themes include: physiology and biomechanics; development and evolution; and ecology and conservation
 - George Somero has a new book (Biochemical Adaptation) coming out end of January
 - ~20 courses offered
 - New HMS website: <https://hopkinsmarinestation.stanford.edu/>
 - Outreach: new offerings for kids:
 - Squids4Kids: <http://gillylab.stanford.edu/outreach.html>
 - Virtual Urchin: <http://web.stanford.edu/group/inquiry2insight/cgi-bin/vu-rla/vu.php>

- SeaNet: Common marine organisms of Monterey Bay: <http://seanet.stanford.edu/>
 - Marine Larvae Video Resource: <http://marinedevelopmentresource.stanford.edu/>
- HMS Open House: May 6th
- Micheli highlighted several research projects:
 - Kelp Forest Array: in collaboration with Center for Ocean Solutions and MBARI
 - Examining long-term trends; and small scale variability; includes real-time data
 - DNA monitoring kelp forests for recruitment and diversity (Palumbi and others)
 - First record of invasive gastropod, ubiquitous in Monterey
 - Marine Life Observatory: Photoquadrats (52 permanent, 0.5m² plots; 3 subtidal sites)
 - Two new boats: 25' Grady-White (Blue Serengeti); 22' Radon (coming summer)
- Goldbogen provided summary of marine mammal research
 - Underwater behavior and species interactions of baleen whales using suction-cup attached video and inertial sensors (40 mile range; ~\$8k/each; blues, humpbacks; suction cups attachment lasts 1 sec to 67 hours)
 - Collaborative work (Cascadia; OSU; MLML; NOAA; Stanford)
 - Will attempt using fluid lensing and drone cameras to measure whales
 - Will attempt to study cetaceans in similar manner: Long-term physiological and ecological monitoring framework for cetaceans in Monterey Bay

MANAGEMENT PLAN

Draft Outline of the Research Program Action Plan to be in Management Plan (Andrew DeVogelaere)

- DeVogelaere provided hard copy draft outline; will email to RAP (Conservation Science Action Plan)
- RAP can suggest additions or omissions; and/or activity descriptions
- Next steps: input from staff, RAP
- **ACTION**: RAP to review outline and provide input if/where needed

ANNOUNCEMENTS

- Bridget Hoover (MBNMS Water Quality Protection Program Director; RAP member):
 - Federal Register Notice (1/12/17, yesterday): Notice and request for comment on two new Special Use Permit Categories related to operation of desalination facilities (30 days for public comment; due Feb 13):
 - (1) The continued presence of a pipeline transporting seawater to or from a desalination facility; and
 - (2) The use of sediment to filter seawater for desalination
 - For more information see: <http://montereybay.noaa.gov/new/2017/170112sup-statement.html>
 - Federal Register Notice (1/13/17, today): Proposed Monterey Peninsula Water Supply Project (CalAm); Notice of availability of Draft Environmental Impact Report/Environmental Impact Statement (45 days for public comment; due Feb 27)

- Go to <http://www.regulations.gov> and search on Docket #NOAA-NOS-2016-0156.
 - RAP may chose to officially respond as group; or individual members could comment (as individual)
 - The RAP will be informally discussing sections of the environmental documents as a group, probably at March 10th RAP meeting (these comments will be useful to sanctuary staff working with consultants on the plans)
 - Individuals can comment prior to Feb 27
 - **ACTION**: Feel free to submit individual comments; agendize discussion for March 10th meeting;
 - **ACTION**: DeVogelaere will send email (with link) to RAP
- Amity Wood (MBNMS Education Coordinator)
 - Wood and staff developing education/science speaker series for 25th MBNMS Anniversary; both in north (Sanctuary Exploration Center) and south bay (tbd) locations
 - Talks will focus on Condition Report environments (4): Estuarine, Nearshore, Offshore, Davidson Seamount
 - Panel (2) for each presentation
 - Request to RAP: input on topics/speakers; expertise in habitat or species; locations
 - Possible dates range from April through November 2017
 - Will keep RAP updated on progress and requested input

RAP RESEARCH PRIORITIES

RAP Action Plan for Long-term Monitoring (John Hunt)

- Hunt provided update
 - Memo/addendum probably fine as written
 - Probably time to present to Superintendent and/or SAC Chair
- Who would like to be at meeting?
 - Hunt suggests Lindholm, Carr, Haddock, and Hunt
 - Micheli would like to attend meeting
- Perhaps schedule at same timing as SAC meeting (when PJ in town)
- **ACTION**: Hunt will coordinate meeting with Superintendent, SAC Chair, and RAP participants

SANCTUARY ADVISORY COUNCIL UPDATE

Summary of December 8th SAC Meeting at Monterey (John Hunt)

- Hunt provided SAC meeting summary
- Highlights included:
 - World Heritage Site nomination to be revisited in February
 - Floating dry dock (528 feet long) sank 1 mile inside MBNMS boundary off Moss Beach, San Mateo County
 - SAC Letter of Support for California Shared-Use Research Vessel
 - Jim Harvey and Brian Ackerman provided background information, we drafted a letter for SAC review, Jim attended the SAC meeting, described the

venture and answered many questions, and the SAC voted unanimously in favor.

- Management Plan Review Working Group and Subcommittee updates
 - Wildlife Disturbance – Approach: Group has been gathering input from whale watch community and was to follow up Dec 20 with recommendations.
 - Wildlife Disturbance – Noise: Five meetings held. Six scientists have presented. Encouraging more research. Hydrophone in bay is providing useful information. Over 2,800 seal bombs recorded last year.
 - Overflight Working Group (GFNMS): There have been many meetings and some progress toward consensus between pilots and biologists.
 - MPWC Subcommittee: will reconvene in early 2017

QUICK UPDATES ON NEW HIRES AT INSTITUTIONS, AND FACILITY UPDATES

- Ramp: recruitment for CeNCOOS Director will begin soon
- Lindley: two new scientists hired: Ben Martin; Andrew Hine
- Haddock: hire updates: Andrea Fassbender; Yui Takeshita; ROV dive yesterday: krill swarms, gulper eel, ribbon fish
- Micheli: Amanda Whitmire (new Head Librarian and Assistant to Director)
- Cailliet: Katie Lage (new Librarian); 3 new postdocs; today meeting to discuss operating institution...stay tuned
- Nickols: looking for good grad students for Research Experiences for Undergraduates Program (REU), deadline Feb 1; Corey Garza has funding for NOAA Cooperative Science Center (NOAA Center for Coastal and Marine Ecosystem; to fund grad students to do research to benefit NOAA science)

SUGGESTED FUTURE AGENDA ITEMS

- RAP comments on Proposed Monterey Peninsula Water Supply Project (CalAm): Draft EIR/EIS
- Follow-up on Long-term monitoring meeting with Superintendent and SAC Chair

Future Agenda Items (running list):

- Water Quality:
 - Follow-up to Hunt's WQ presentation (9/12/14), where does all the data go? Successful uses, shared capability, proper use of data (per Scorse); Roy Mendelson would be good speaker (per Lindley)
 - Elkhorn Slough Report Card:
http://www.elkhornslough.org/research/waterquality_reportcard.htm
- RAP Membership:
 - Revisit RAP member policies including representation: discipline vs institution; available at: http://montereybay.noaa.gov/sac/rap/history/rap_policies.html
- SAC Charter revision
- Speaker series on science (Oceans Live; *Your Sanctuary* TV)
- Coastal Rivermouth Lagoon inventory for state and central coast (Central Coast Wetlands Group/Ross Clark)

- RAP feedback for SAC (per Hunt)
- Recent boom in whale watching; more info needed on fish/whale correlation; prey/fishing/whale interactions; science; Speaker: Peggy Stapp or Scott Benson? (per Scorse)
- Seal bombs deployed off CA; Ask Scott Kathey (per Scorse)
- Monitoring activities that ~~staff~~ and RAP members involved in (DeVogelaere/Hunt)
- MBNMS Budget and staffing, and trends (short topic; per Storlazzi)
- RAP member/scientists calculate what they contribute to MBNMS (per Hunt)

2017 RAP Meeting Schedule and Locations

Date	Host	Location
January 13	Micheli	Hopkins Marine Station
March 10	Cheriton	US Geological Survey
May 12	Wasson	Elkhorn Slough NERR
July 14	Haddock	Monterey Bay Aquarium Research Institute
September 8	Owens	California Department of Fish and Wildlife
November 3	Pomeroy	UCSC or central location
